

**European Thematic Network on
Wave Energy**

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WP 3.2

Final Report

Conflicts of Interest

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1. Conflicts of Interest

1.1 INTRODUCTION

According to the work program of the Wave Energy Network, the purpose of Work Package 3.2 is to collate information on *barriers to large-scale development of wave energy basically arising from competing uses of the resources, such as areas required for shipping, military exercises, existing subsea pipelines and cables, fishing grounds, etc.*

As the presence of such barriers is heavily dependent on the specific location, it is only possible to give a general overview presentation of the subject in this report. Potential barriers for specific sites will be discovered during the SEA¹ and EIA² process of individual, larger wave energy projects, and detailed information about these barriers will then be available in the SEA Statement and the EIS³ [i], [ii]. For further details concerning EIA and EIS, please refer to the draft report concerning Work Package 2.3: Environmental Impact.

The information on barriers basically arising from competing uses of the resources has been collated through interactions with device teams (e.g. through responses to questionnaires, see App. 1) and studies of selected references. As can be seen from the list of references (p.14) useful information has been found from studies of offshore *wind* energy, and the information in this draft report is in many cases based on a similar study from the EU Concerted Action on Wave Energy in Europe [iv].

The information obtained from the relatively few device teams in the responses to the questionnaires show that barriers resulting from “conflicts of interest”, as defined here, are not at present expected to constitute major barriers for the large-scale development of wave energy.

¹ Strategic Impact Assessment, EC Directive to be transposed into national laws by 2004 (European Directive 2001/42/EC). SEA process to be carried out by authorities.

² Environmental Impact Assessment. (Council Directive 85/337/EEC, amended by Council Directive 97/11/EC (1997)). EIA process usually carried out by developer.

³ Environmental Impact Study, the final document of the EIA process

2. Barriers arising from competing uses

As an initial step in the planning process, the mapping of areas reserved for other uses must be carried out, and an alternative location of deployment will have to be analysed before deployment.

Areas with competing uses generally fall in two categories: areas with restricted or prohibited access and areas with conflicting uses.

Areas with restricted or prohibited access are:

- Major shipping routes
- Military exercise grounds
- Areas near other major coastal or offshore structures (bridges, harbours, oilrigs, wind turbines etc.)
- Areas near sub-sea cables or pipelines
- Natural reserves

Areas with conflicting uses are typically:

- Fishing grounds
- Resource extraction areas (stone fishing etc.)
- Recreational areas
- Areas of archaeological interest

As most European countries have procedures for hearing the views of interest groups, potential conflicts of interest are mostly well known, and should be identified during the SEA and EIA process [i], [ii] and [iii]. Apart from various lobbying organisations, primary conflicts of interest concern ship traffic, defence and fishing interests.

Some areas may be excluded from consideration for use for wave energy projects already at the pre-planning phase. These are major ship lanes, oil & gas pipelines, cable routes, raw material deposits, military restricted areas and areas of importance in relation to flora and especially fauna, e.g. Special Areas of Conservation. However, most other suitable sites will be subject to potential conflicts of interests with other uses and users of the locations.

In order to present an idea of the number and types of users and uses, a list of consultees who should be involved in the EIA process regarding Orkney Marine Energy Test Centre [v] has been attached to this report as Appendix II.

3. Areas with restricted or prohibited access

Regarding the restricted areas these are plotted in naval maps, and updates are frequently published in notices for fisheries and notices for mariners.

This type of barrier was in general considered to be of medium importance by the network members, although restricted areas exclude significant potential locations for wave energy production, but such restrictions are generally of local nature and do not concern major sea areas.

3.1 SHIPS

According to international shipping conventions all ships have the right of innocent passage through territorial waters, and beyond this 12 nautical-mile limit shipping enjoys freedom of navigation. Where required for safety reasons sea-lanes and traffic separation schemes are designated or prescribed for the regulation and passage of ships. International shipping activities are regulated within the IMO (International Maritime Organisation), a specialised organisation of the United Nations [vi].

According to international law countries have the right to construct renewable offshore projects within a 200-mile renewable energy production zone. It is possible to establish safety zones up to a distance of 500 metres around such installations, however offshore renewable installations and safety zones are not permissible if they interfere with recognised sea lanes [vii].

Shipping is likely to be an important source of conflicts of interest. The reasons for this seem to be the following:

- ship lanes represent a siting limitation factor, as certain areas will be prohibited for use for wave power where established shipping lanes demand it. Furthermore, locations where ships may lay anchor to enter harbours, must be avoided.
- even where careful planning is carried out, and the farm is not placed near major navigation routes, or routes have been altered in order to minimise collision risk, there will still exist a risk of significant environmental damage in case of ship collisions with wave energy converters, e.g. an oil carrier collision. In Danish EIA risk analyses applied for the Middelgrunden and Nysted/Rødsand offshore wind farms, a calculated risk in the order of 1 collision every 10 years has been accepted by the authorities, as the risk frequency was not higher than at baseline conditions [viii]. For wave energy converters deployed in deep waters, the frequency of

collision is likely to be lower, but nevertheless likely to be higher than the baseline conditions.

- wave energy farms must be marked properly and effectively in accordance with national or international guidelines (IALA 1984, IALA 2000 [ix]), even though painting and illumination/signal lights may have a negative visual impact, which could lead to increased public resistance.
- there is a need for proven reliability of anchor/mooring systems of wave energy converters to avoid hazard of drifting converters in e.g. shipping lanes.

As collision risk analyses for all offshore construction projects will be a mandatory part of the EIA, valuable information will be available from these studies, as can be seen in offshore wind energy EIAs, see for instance background reports to the offshore wind farms at Horns Rev and Nysted/Rødsand, [x] and [xi].

Due to the significant environmental risks associated with ship collisions, this issue may pose a significant barrier for some wave energy technologies. Methods for assessing ship collision risks are available from other industries and must be applied. However, at the current state of development it is unclear which collision frequency might be acceptable. The risk assessment will have to assess the additional risk associated with the wave power plant compared to baseline conditions before deployment.

In order to minimise the risk of collision with naval traffic, the wave energy converters must be painted and lighted according to the requirements from public authorities. The lighting requirements may be expected to vary according to the classification of the different device types. Furthermore, lighting requirements will probably also depend on the conclusions from the ship collision risk assessment, which might introduce additional marking requirements.

3.2 MILITARY EXERCISE GROUNDS

Military area restrictions disqualify a number of feasible sites from being developed. In many countries coastal areas owned by the military cover a significant part of the sea potentially usable for wave power. Practical solutions for co-existence between military and wave power are called for, but a solution must come through the political system.

In the UK, the Ministry of Defence have raised objections concerning the siting of several offshore wind farms, as these – according to the MOD - are supposed to disturb vital radar systems and constitute a risk for low-flying aircrafts⁴. As long as wave energy schemes do

⁴ See for instance The Guardian, May 31, 2001. An ongoing and continuing dialogue between the MOD and the British Wind Energy Association has however been established and common interim guidelines published, in: ETSU (DTI, MOD and BWEA) 2002: Wind Energy and Aviation Interest [xiii].

not reach the height of today's offshore wind turbines or consist of moving blades like the wind turbines [xii], barriers due to disturbance of radar or radio links or collision risks with low-flying aircrafts are not to be expected.

3.3 AREAS NEAR OTHER MAJOR COASTAL OR OFFSHORE STRUCTURES

Areas near other coastal or offshore structures constitute a limitation regarding potential locations of wind energy schemes.

For some regions, the shallow water locations may already be reserved for offshore wind power. This might develop into a barrier for some device types, which are only applicable for water depths of less than 15 meter, but if the reliability of anchoring/mooring systems of wave energy converters has been proven, a fruitful co-existence between e.g. offshore wind and wave energy could be possible.

When the mooring problem has been solved, and different wave energy technologies have proven to be reliable and safe, the limitations due to neighbouring coastal or offshore structures should be minimised, thereby for instance lowering cable costs if wave energy converters can be located near existing offshore wind farms.

3.4 SUBSEA CABLES, PIPELINES AND RAW MATERIAL DEPOSITS

Corridors around electricity and telecommunications cables, oil and gas pipelines and oil and gas production sites prohibit renewables developments in these areas and thereby constitute a site-limiting factor [vii].

This is however not seen as major barriers for the development of wave energy, as these sites and corridors are already well-known and should therefore not lead to any significant conflict of interests.

There is moreover no reason why the oil & gas industry and offshore renewables should not be able to work close to each other in the future – indeed, there are plans to generate electricity from a combination of gas and e.g. offshore wind power, and a close cooperation would further enable the potential sharing of facilities, thereby minimising the costs and impact from the establishment of offshore renewables project [vii].

3.5 NATURAL RESERVES

Protected areas such as *Special Protection Areas* and *Special Areas of Conservation* (please refer to Appendix 3. Natural reserves/protected areas) limit the number of potential locations for wave energy. In cases where these areas are well known, conflicts should be easily avoidable, as long as the deployment

site is not within a restricted area. In many countries (e.g. the UK) such areas have until now however only been defined within the territorial waters (the 12 nautical miles zone).

It should be noted that even though future wave energy devices are not located within the borders of a restricted area, it is not unlikely that the subsea cables from the wave energy converters to shore must be placed in a restricted area. This cabling problem is actually seen as a serious barrier for the development of large-scale offshore wind projects in the German part of the North Sea, as the authorities, due to environmental concerns, until now have been reluctant to accept that cables are laid in protected areas near-shore. A (political) solution is called for, and one possible solution could be the approval of cable-laying under very strict rules, in order to minimise impact on environment during construction; one minimum requirement would be only to allow cable laying work at times that are not important or sensible for the surrounding wild life, which would often result in work at winter time.

Furthermore, areas that at a first glance do not seem to be protected areas (on official maps) must in some cases be regarded as protected areas, because in the EU different unclassified sites that deserve EU classification should be treated as classified sites.

For example: An *Important Bird Areas* (a *BirdLife* term) that has not been officially declared as a *Special Protection Area* (SPA, the official EU term covering areas that deserve protection due to their importance for birds), must be treated as an SPA until a decision has been made [xiv].

The choice of location for the Danish Energy Authority's wave energy test centre in Limfjorden (Nissum Bredning), in the middle of an SPA, can be seen as an indication that wave energy is not expected to have negative impact on birds, and that natural reserves' restrictions may not constitute a serious limitation of wave energy, if it proves that wave energy does not imply negative impacts on the surrounding nature.

For the Wave Dragon project, where a model will be tested at the Danish Wave Energy Test Centre from Spring 2003, and later on a few kilometres away, still within the borders of the SPA, an analysis has been carried out leading to the conclusions, that disturbance of the birds would only be temporary, during deployment and maintenance work. When/if wave and tidal energy devices are equipped with wind turbines there will be a new situation, but research from offshore wind farm monitoring studies may then have lead to solutions concerning this subject.

Ornithological associations are a very strong lobby in most European countries, and negotiations are often carried out to define whether or not an area can be used for wind power. Due to the low height of wave energy converters, this conflict should however be less severe than is the case for offshore wind energy projects.

4. Areas with conflicting uses

4.1 FISHING

Restrictions to fishing rights from wave power are bound to be an area of conflicting interests as the fishermen will lose trawling ground and in some cases also areas for pot fisheries.

Experiences from offshore wind indicates that up to now this conflict has not excluded any projects from being carried through, but financial compensation must be given to the fishermen even without much evidence that fishing is actually reduced.

This conflict appears to be especially problematic for France where the fishing lobby is very strong and do not hesitate to block harbours if they feel their interests threatened, but such problems may also occur elsewhere since the fishermen are generally well organised all over Europe.

In the UK, the DTI has established a liaison group to encourage open dialogue between the fishing industry and the offshore renewables sector, and best practice guidelines on consultation between developers and fishing interests are being prepared [xv].

Some of the device developers responding to the questionnaire stated that their device would probably be beneficial for fish populations, but there is no reason to believe that this will prevent that financial compensation to fishermen must be paid.

In order to minimise impacts on fish, and thereby reduce the risk of conflicts with fishermen, it is recommended to

- avoid construction of wave energy farms in sensitive spawning areas, areas with species of commercial or conservation importance and areas with a very high value for fisheries
- avoid construction during important breeding, nursery or feeding periods
- carry out site-specific and species-specific monitoring studies in order to investigate the (positive and negative) effects of the wave energy farm on fish, including the consequences on fish population/fishing possibilities when fishing is restricted within and in the vicinity of the wave energy devices.

4.2 RESOURCE EXTRACTION AREAS (STONE FISHING ETC.)

Resource extraction areas generally concern small and localised areas, and as most wave energy converter types can be applied for quite a wide span of locations, the significance of this will not be major.

4.3 RECREATIONAL AREAS

The coast and the sea is a primary holiday and leisure location and is a significant asset in a nation's recreational resource [xvi]. Recreational areas and values are often a significant barrier to major on- or near-shore construction projects, and for instance in the UK over a third of its coastline is designated for its scenic or natural beauty [xvii].

Not considering natural reserves, the conflict basically concerns the visual intrusion of the technology into the landscape/seascape. In general, conflicts and opposition lessen when the plant is deployed "out of sight." In [xvi] it is suggested that a distance of 15 km may be the maximum limit of visual significance regarding offshore wind turbines along the coast.

Compared to wind power, where significant local opposition to large-scale farms is found in several countries, the conflict is likely to be less severe for wave energy. First of all, wave energy converters do not extend far above sea level, making them hardly visible from distance. Even the shore-based devices like the LIMPET are hardly visible from a distance. For near-shore and offshore devices, this might be a problem in itself, as naval standards will require visibility from quite some distance, which means installation of buoys and lanterns. This might be a subject of public concern for really large farms, but cannot be expected to pose a serious barrier for wave energy in the short- and medium term.

4.4 MARINE ARCHAEOLOGY

Areas of archaeological interest are often non-definable from maps – as an example there are thousands of historic shipwrecks along the British coast, however only 52 of them have so far been selected for protections under the UK Protections of Wrecks Act [xvii]. Seismic site surveys and historical records investigation during the planning phase prior to the decision of the exact siting should however avoid possible conflicts of interest.

Specific areas of archaeological interest should be avoided. If, however, for instance a wreck is found during installation, this may lead to a partial or total relocation to avoid serious delay to the whole project. In some cases the public approval may be granted on the condition that the contractor funds archaeological investigations of the specific site. All solutions – relocations, delay and funding – may be connected with considerable costs

In general, areas of archaeological interest are found near-shore. The issue is not to be considered as a barrier to large-scale exploitation of wave energy, but as a risk factor to be considered in the planning process, and measures can easily be taken to avoid such incidents by carrying out the investigations necessary in the SEA and EIA.

4.5 OTHERS

For some countries the coastal region is covered by very strict rules of land (and sea) use, effectively hindering the deployment of near shore devices. In Denmark construction works are generally prohibited in the coastal region proceeding 8 km offshore, unless located near

an industrial area, and in Ireland the same applies for areas within 5 km distance from shore.

It should be repeated that in many countries the rules governing renewable energy devices deployed outside the territorial borders are currently unsettled. To what extent this will pose a significant barrier to offshore wave energy is hard to assess. In any case, it seems likely that this issue will be handled by offshore wind power, before it is relevant for offshore wave energy.⁵

⁵ As an example the UK government has stated that new legislation is needed to allow development of offshore renewables outside territorial waters and has subsequently proposed a legislative basis for such developments in the “Future Offshore” consultation report [vii].

5. Conflicts of Interest - General

Conclusions

The general conclusion is that most conflicts of interest are restricted to areas already known in the planning phase, thus severe conflicts of interest which could stop a project can theoretically be avoided through careful, open planning.

Conflicts with fishermen are almost bound to occur, but within other marine construction works such conflicts have been solved to date through agreed financial compensation. Some commentators note that conflict with fishermen is likely to occur regardless of the expected positive and negative effects on fish stocks.

Ship collision risks are to be carefully assessed in the project planning phase. Whereas deployment of wave and tidal energy schemes in shallow water may in some cases decrease ship collision risks, due to markings lights and thereby improved “visibility” of reefs and bank, it seems very hard to envisage a non-negative effect for offshore deployments. The acceptable level of risk associated with offshore wave power is currently undefined, but relevant experiences may become available from the developing offshore wind industry.

It will be very important to collect information from different studies in order to cover the whole area, as different “narrow” site specific studies are carried out at the different projects: Baseline and impact studies from individual projects are to be disseminated and jointly appraised. Conclusions from local projects should be translated and all relevant existing material placed on a publicly accessible web-site.

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8. Appendix 1 Questionnaires

Technical barriers

Technical barriers are here defined as land-use practises that may prohibit large-scale wave energy schemes. Members of the Wave Energy Network have been asked to evaluate the importance of such practises, with reference to relevant literature, legal rules, case studies etc.

Country: Portugal and other ocean bounded countries Form filled out by: Teamwork Technology

[Sheet 1] Task 3. 2 Technical barriers: To what degree may the following issues represent a technical barrier for large-scale <i>Wave Energy Schemes</i> during planning, construction or installation? Please indicate relevance for shore-based, near-shore and offshore devices, where not identical.				
Topic	Importance	Comments	Lite-rature	Available (Y/N)
Offshore devices on ocean coasts. Not in inner seas as the North sea.	1=low (not important) 2=medium (to be taken into account in the planning phase) 3=high (excludes significant potential locations for wave energy production)			Please indicate language
3.2 a Area restriction like shipping	2	In most countries with Wave Energy Potential, shipping is a small factor, and therefore not the major issue		
3.2 b Area restriction like military exercises	2	Only discussions with local government has to be undertaken		
3.2 c Area restriction like sub sea pipelines and cables	2	Here the same applies as for the offshore industry. It is a fact but not the main one		
3.2 d Area restriction like fishing grounds	3	A good dialog with the fishery industry must be held. However the benefits for fishery can be larger than the negative impact		
3.2 e Other area restrictions....	2	Installation regimes for wave energy systems		

Country: Denmark

Form filled out by: EMU

[Sheet 1] Task 3. 2 Technical barriers: To what degree may the following issues represent a technical barrier for large-scale <i>Wave Energy Schemes</i> during planning, construction or installation? Please indicate relevance for shore-based, near-shore and offshore devices, where not identical.				
Topic	Importance	Comments	Literature	Available(Y/N)
	1=low (not important) 2=medium (to be taken into account in the planning phase) 3=high (excludes significant potential locations for wave energy production)			Please indicate language
3.2 a Area restriction like shipping	2	Is to be taken into account while planning schemes, as it may exclude certain locations.	2	Y (DK)
3.2 b Area restriction like military exercises	1	Especially relevant for some shore and near shore locations, already known.	2	Y (DK) Y (UK)
3.2 c Area restriction like sub sea pipelines and cables	2	May be important for some locations. For the Danish case, large areas have been identified for wind power production. Placing WEC's in these (shallow) areas may give the advantage of reduced grid connection costs, but may also be prohibited by the areas being blocked by wind power including grid cables.	1 2	Y (DK) Y (UK)
3.2 d Area restriction like fishing grounds	3	Financial compensation is usually given to local fishermen for loss of access to fishing grounds.		
3.2 e Other area restrictions....	3	The coastal zone in Denmark has very strict legal rules for land-use practises, making shore-based and near-shore devices impossible up to 8 km from shore, except close to industrial areas.	3	Y (DK) Y (DK)
No.	References	Content		
1	Energistyrelsen (1995): Vindmøller i danske farvande. Kortlægning af myndighedsinteresser, vurderinger og anbefalinger. (Wind turbines in Danish waters. Survey of public authority interests, evaluations and recommendations). Danish Energy Agency - Copenhagen (In Danish)	Includes a map of areas that must not, areas that might, and areas with priority to be used for offshore wind power, including which of the technical barriers above are valid for each area. The conclusions are also valid for wave energy. Only available in Danish.		
2	Official navigation maps	Most area use restrictions are shown on navigation maps		
3	Danish law about use of the coastal zone			

Country: Greece

Form filled out by: CRES

[Sheet 1] Task 3. 2 Technical barriers: To what degree may the following issues represent a technical barrier for large-scale <i>Wave Energy Schemes</i> during planning, construction or installation? Please indicate relevance for shore-based, near-shore and offshore devices, where not identical.				
Topic	Importance	Comments	Literature	Available (Y/N)
	1=low (not important) 2=medium (to be taken into account in the planning phase) 3=high (excludes significant potential locations for wave energy production)			Please indicate language
3.2 a Area restriction like shipping	2	Frequent traffic on the islands especially during spring-summer. Deployment of large-scale wave energy schemes (LS-WES) might require reconsideration of routes.	1,2,3	Y (GR)
3.2 b Area restriction like military exercises	3	Restricted areas near borders and on remote islands in the Aegean/Ionian Seas	1,2,3	
3.2 c Area restriction like sub sea pipelines and cables	2		1,2,3	
3.2 d Area restriction like fishing grounds	1 2	Fish farming; installation LS-WES of no significant impact Near-offshore fishing industry: installation of LS-WES might cause conflicts	1,2,3	

No.	References	Content
1	Νόμος Αριθ. 2773, Εφημερίς της Κυβερνήσεως, Αρ. Φύλλου 286, 22/12/1999	Law governing energy production-distribution incl. RES
2	Νόμος Αριθ. 2601, Εφημερίς της Κυβερνήσεως, Αρ. Φύλλου 81, 15/4/1998	Law governing energy production-distribution incl. RES
3	Υπουργική Απόφαση. Δ6/Φ1/ΟΙΚ.8295/19.4.1995, Εφημερίς της Κυβερνήσεως, Αρ. Φύλλου 385, 10/5/1995	Council resolution governing energy production-distribution incl. RES

Country: Ireland Cases: SH: Limpet, NS: BBDB or Pelamis, OS: BBDB or Pelamis or other

Form Filled out by: Pat Mc Cullen (ESBI)

Sheet 1 Task 3.2

Topic	Importance	Conclusions	Refs.
3.2 a Area restriction like shipping	1-2 (NS,OS) 1(SH)	Varied throughout Europe. Not significant for Atlantic Coast of Ireland. Would be mapped in EIS.	Y/Eng.
3.2 b Area restriction like military exercises	1-2 (NS,OS) 1 (SH)	Varies throughout Europe. Not significant for most of Atlantic Coast of Ireland. Would be mapped in EIS.	(1),(2) Y/Eng
3.2 c Area restriction like sub sea pipelines and cables	1-2 (NS,OS) 1 (SH)	Varies throughout Europe. Not significant for most of Irish coast. Would be mapped in EIS	(1) Y/Eng
3.2 d Area restriction like fishing grounds	2-3 (NS,OS) 1(SH)	Varies throughout Europe. Can be species related and subject to change. Restrictions may assist fish stock re-generation but give rise to claims for compensation.	(2) Y/Eng
3.2 e Other area restrictions....	1 (NS, OS)	Wrecks, Oil/Gas exploration works very localised	(3) Y/Eng
3.2(f)	1-3 (NS, OS)	Need for proven reliability of anchor/mooring systems to avoid hazard of drifting converters in shipping lanes or fishing grounds.	(1) Y/Eng

References	Content
(1) Offshore Generating Stations: Note for Intending Developers. Dept. of Marine and Natural Resources (Dublin).	Primarily offshore wind but includes criteria applicable to wave and tidal converters.
(2) Fisheries notices as issued from time to time.	Limits and effective times
(3) Notices to Mariners as issued from time to time.	Operational limits, restrictions.

9. Appendix 2 Consultation

This Appendix is a reprint of Appendix 3 in "Highland and Islands Enterprise (2001): Environmental scoping for a proposed Marine Energy Test Centre, Stromness, Orkney."

Consultation forms an essential part of any Environmental Impact Assessment (EIA).

Initial consultation within Orkney has already been undertaken by Highlands and Islands Enterprise and the International Centre for Island Technology. Presentations on the project proposals to date have been provided to:

- Stromness Community Business Forum;
- Orkney Renewable Energy Forum;
- Orkney Coastal Forum, Stromness Community Council; and
- Orkney Enterprise.

Meetings relating to specific issues and concerns have been held with the following organisations:

- Local landowners;
- OIC Harbours;
- Royal Society for the Protection of Birds; and
- Scottish Natural Heritage.

As part of the environmental scoping exercise informal meetings were also held with the following organisations:

- County Archaeologist;
- Orkney Fisheries Association (OFA); and
- Orkney Fishermen's Society (OFS) and local creel fishermen.

As the project progresses it is likely that there will be further concerns and issues raised that will require careful consideration. It is therefore important that the design and build contractor continues this commitment to consultation throughout the project. A list of consultees who should be involved in this process is provided below:

- Civil Aviation Authority (CAA)
- County Archaeologist
- Crown Estate Commissioners
- Environmental Concern Orkney (ECO)
- Farming and Wildlife Advisory Group (FWAG)
- Friends of the Earth (FoE)
- Greenpeace
- Highlands and Islands Fishermen's Association (HIFA)

- Historic Scotland
- Hydrographic Office
- HM Coastguard
- Joint Nature Conservation Committee (JNCC)
- Maritime and Coastguard Agency (MCA)
- Marine and Coastal Studies Forum
- Ministry of Defence (MoD)
- Neighbouring land owners/commercial interests
- North of Scotland Water Authority (NOSWA)
- Northern Lighthouse Board (NLB)
- NorthLink (new ferry operator)
- Orkney Biodiversity Forum
- Orkney Coastal Forum
- OIC, Department of Development and Protective Services
- OIC, Department of Harbours
- OIC, Department of Technical Services
- Orkney Dive Boat Operators Association (ODBOA)
- Orkney Enterprise (OE)
- Orkney Ferries Limited
- Orkney Field Club (OFC)
- Orkney Fish Farmers Association (OFFA)
- Orkney Fisheries Association (OFA)
- Orkney Fishermen's Society (OFS)
- Orkney Marinas Group
- Orkney Renewable Energy Forum (OREF)
- Orkney Sea Angling Association
- Orkney Seal Rescue
- Orkney Tour Guides Association
- Orkney Tourist Board (OTB)
- Orkney Trout Fishing Association (OTFA)
- Orkney Whale and Dolphin Group
- P&O Scottish Ferries (existing ferry operator)
- Royal National Lifeboat Institute (RNLI)
- Royal Society for the Protection of Birds (RSPB)
- Scottish Coastal Forum

- Scottish Environment Protection Agency (SEPA)
- Scottish Executive
- Scottish Executive Environment and Rural Affairs Department (SEERAD)
- Scottish Fisheries Protection Agency (SFPA)
- Scottish Fishermen's Federation (SFF)
- Scottish Natural Heritage (SNH)
- Sea Mammal Research Unit (SMRU)
- SeaWatch Foundation
- Stromness Community Business Forum (SCBF)
- Stromness Community Council (and other relevant Community Councils)
- Stromness Sailing Club
- Talisman Energy (UK) Limited
- WWF

10. Appendix 3. Natural reserves/ protected areas

In the EU, different terms for protected areas exist, the most important regarding offshore and especially near-shore conditions being: Important Bird Areas (IBAs), Special Protected Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar areas.

- “IBA” – Important Bird Area - is a BirdLife term⁶ and covers a conservable site identified on the basis of its international significance for the conservation of birds at the global, regional or sub-regional level for: threatened bird species, congregatory bird species, assemblages of restricted-range species and assemblages of biome-restricted bird species. IBAs are identified by the private organisation BirdLife using standardised, internationally agreed criteria, but the term IBA in itself does not imply any legal protection of the area. IBAs have borders described, but these borders may not all have been precisely defined. Furthermore, the selection of IBAs in Europe has not been finalised – national BirdLife partners may add more areas to the list, as indicated by e.g. the Swedish Ornithologist Organisation⁷.
- “SPA” – Special Protection Area - is the official EU term regarding protection of birds, and SPAs are designated in the EU under the EC Birds Directive 79/409/EEC. The protections requirement regarding SPAs are given in Article 4(4) of the directive, where it is stated that for SPAs “...*Member States shall take appropriate steps to avoid pollution or deterioration of habitats or any disturbance affecting the birds, in so far as these would be significant having regard to the objectives of this Article...*”
Member states shall furthermore, according to the directive, “assess any plan or project that either by itself or in combination with other plans or projects is likely to have a significant effect on an SPA, and ensure that any such plan or project is not approved if it would adversely affect the integrity of the site, unless there are ‘imperative reasons of overriding public interest’”⁸

⁶ www.birdlife.org

⁷ www.sofnet.org

⁸ Handbook on the Implementation of EC Environmental Legislation
<http://europa.eu.int/comm/environment/enlarg/handbook/nature.pdf>

There are currently 1,375 SPAs in Europe

- “SAC” – Special Area of Conservation – is an EU term covering areas designated in relation to the EC Habitats Directive 92/43/EEC. The aim of the directive is to contribute to the maintenance of biological diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the member states. According to the directive, member states are committed to protect wild species and the habitats of plants, mammals, reptiles, amphibians, fish and invertebrates and to conserve threatened types of habitats. The designation of a SAC is only possible after a site has been adopted as a Site of Community Importance (SCI). An aim of the directive has been to establish the “Natura 2000” network in order to ensure that selected habitats and species are maintained at or restored to a favourable conservation status.

Plan or projects with possible adverse effects on a SAC must be subject to appropriate assessment. In there are no *significant* adverse effects, the plan or project can be carried out within the borders of the designated area; if significant adverse effects have been assessed, the project will not get the required permit, unless the following three conditions are fulfilled:

- there are no alternatives to the propose plan or project, and
 - there are overriding public interests, and
 - compensatory measures will be adopted
- “Ramsar areas” are designated on basis of the international Ramsar Convention on Conservation of Wetlands of International Importance, especially for birds. Sites included in the Ramsar List are subject to conservation measures, including the establishment of nature reserves. If a site is de-listed, states having ratified the convention are obliged to compensate for the loss by creating additional nature reserves or by protecting an adequate portion of the original habitat.⁸

Other international conventions of relevance are the Bonn Convention on Conservation of Migratory Species of Wild Animals (“CMS”), aiming at conserving species of wild animals that migrate across or outside national boundaries, and the Berne Convention on the Conservation of European Wildlife and Natural Habitats, aiming at the conservation of wild European flora and fauna in their natural habitats. The convention also covers non-European countries, e.g. in the case of migratory species moving to Asia and Africa.